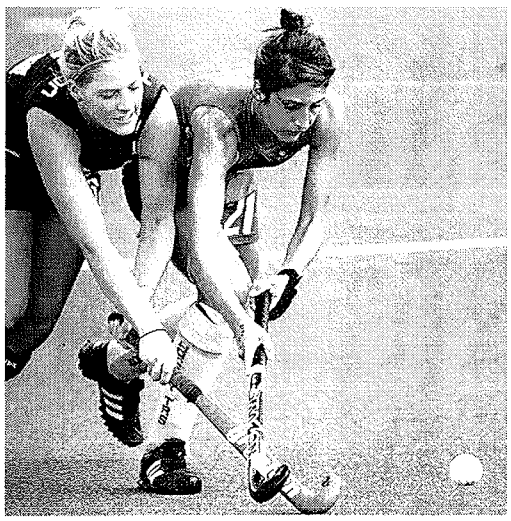
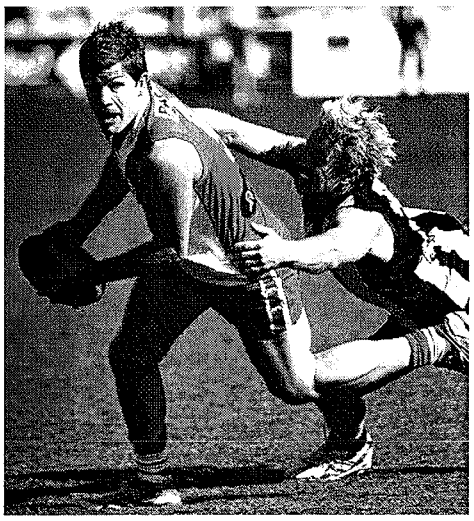
THE VALUE OF SPORT AND PHYSICAL RECREATION TO TASMANIA

SUMMARY





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Foreword

It is universally accepted that sport and recreation has value. We know that individuals are healthier and happier if they participate in sport and recreation. We also know that communities are well connected and people within them socially included where participation rates in sport and recreation are high. It is also increasingly accepted that these communities are attractive places to live and work.

While the benefits of sport and recreation are well known, until now there has been little research that identifies and quantifies the benefits of sport and recreation as a whole.

This ground-breaking research has objectively quantified the significant economic value of sport and physical recreation to Tasmania for the first time. It is the culmination of three years of research undertaken in partnership between the State Government, the Australian Innovation Research Centre and the University of Tasmania.

As Sport and Recreation Minister I see the findings of this report as both exciting and challenging.

It is exciting because it quantifies the contribution of volunteers in sport and recreation and indicates 36 500 Tasmanian volunteers contribute over three million hours of work each year, the equivalent of nearly 1 800 full-time jobs.

It is also exciting that the report shows sport and recreation pays for itself. Sport and recreation related expenditure generates more in revenue than the level of investment provided by all three tiers of government combined. The expenditure in sport and recreation and the jobs this generates shows that sport and recreation is a significant industry in Tasmania, directly contributing $819.3 million to the economy (3.6 per cent of gross state product) and enables the employment of over 13 000 people. For every $1 invested, Tasmania receives over $4 in benefits, with the combined annual value of these benefits conservatively estimated to be $5.6 billion.

The report shows that the majority of benefits of sport and recreation are directly related to participation rates and this is an area where there is room for improvement. It indicates that a 10 per cent increase in participation rates would generate an additional $903.5 million in annual benefits to Tasmania.

I encourage everyone to read it and hope it will promote debate and discussion on the contribution of sport and recreation to Tasmania. I congratulate all those involved in producing this ground breaking piece of work.

Michelle O'Byrne

Minister for Sport and Recreation

Highlights

This report introduces a model of 'Sport and Physical Recreation Value' that locates the discrete values of Sport and Physical Recreation (SPR) and, for the first time, illustrates the dynamic way they interact. The model used in this report estimates the costs and benefits of SPR in a single region, Tasmania.

The **key findings** of the report are that in the financial year 2008-2009:

The sum of benefits enjoyed by Tasmania as a result of SPR is conservatively estimated to be $5.6 billion, delivering over $4 value for every $1 invested by the whole community — a 400 per cent return.

The estimated contribution by all tiers of government to SPR of $100 million is repaid **50 times over** in returns to the community.

Our health system saved $60.2 million as a direct result of SPR-enabled physical activity. The financial cost of SPR injury was $3.1 million.

Tasmanian households, businesses and government collectively spent $613.1 million on SPR, and invested a further $677.2 million in labour and assets.

36 500 Tasmanians aged 15 years and over volunteered for SPR for over three million hours — the equivalent of nearly 1 800 full-time jobs in the community.

Nearly one in three tourists to Tasmania participated in SPR.

After paying $188.4 million in related taxes (nearly double the all-of-government investment in SPR) and employing over 13 000 people, Tasmanian firms enjoyed $184.4 million in profits that can be directly attributed to SPR.

There are even greater economic benefits to be had by investing in ways to encourage increased community participation in regular SPR.

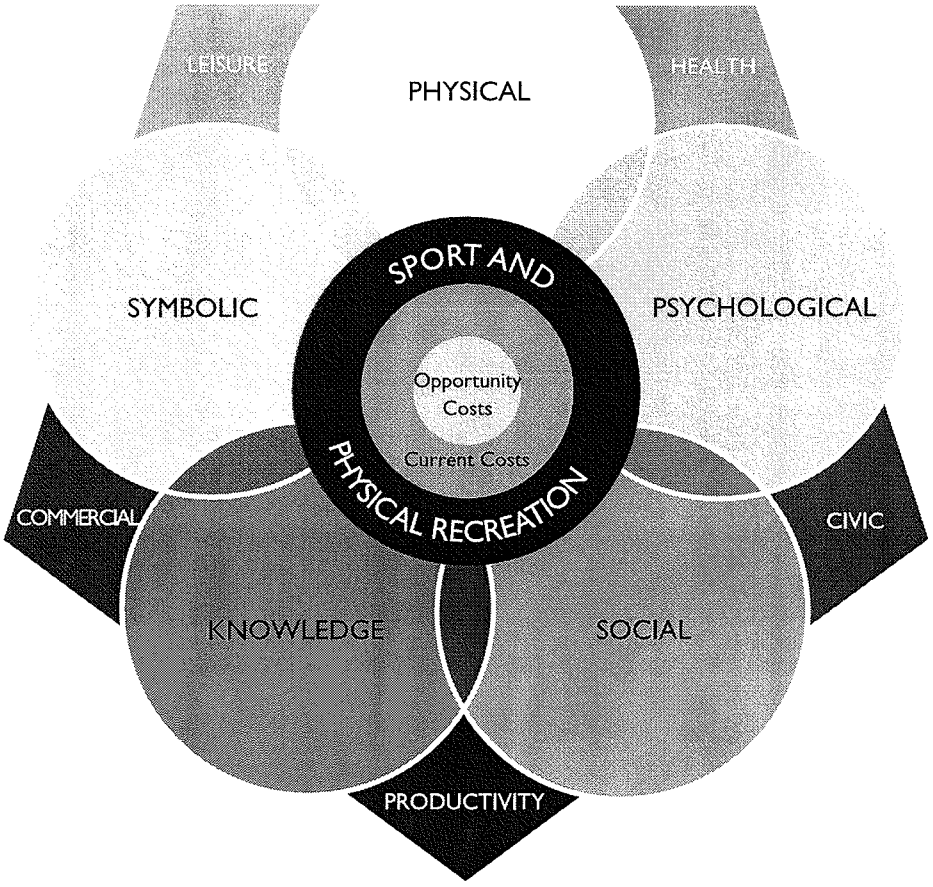
Our principal finding is that although the current levels of investment in SPR yield a strong return, a more economically efficient outcome can be achieved by increasing the regular rate of participation. For example, a 10 per cent increase in SPR participation would generate an additional $905.3 million in annual benefits. The model proposed by this report is therefore a useful tool for enabling and explaining cost benefit analysis, and for evaluating SPR policy alternatives in support of this aim.

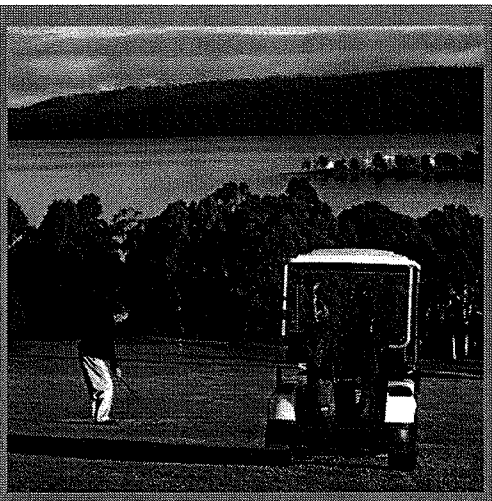
Introduction

Sport and physical recreation (SPR) has long been appreciated as an important contributor to the community; yet, in an age of increasing demand for government services — and ever scarcer resources — the question is being asked: what does SPR actually produce?

This report introduces a model of 'Sport and Physical Recreation Value' that locates the discrete values of Sport and Physical Recreation (SPR) and, for the first time, illustrates the dynamic way they interact. The model used in this report estimates the costs and benefits of SPR in a single region, Tasmania.

Figure 1 – The value of sport and physical recreation





Scope

Sport and physical recreation is defined as any physical activity undertaken for leisure that employs a degree of exertion beyond that required by day-to-day existence. This classification is intended to distinguish SPR from passive recreation and leisure. Wagered horse and dog racing are explicitly excluded from consideration at the request of Sport and Recreation Tasmania, who commissioned this report.

This report also defines value economically, as opposed to financially or philosophically. It assumes that SPR has value only if individuals place value upon it. To determine SPR's value to Tasmanian society, we aggregate from individual values.

This *Summary* has been published as a companion to *The Value of Sport and Physical Recreation to Tasmania (2008-09): Research Report*. For details about the source data and methods used, please refer to the complete document, which can be downloaded from the sites listed on the back cover.

It should also be noted that where figures have been rounded, discrepancies may occur between the sums of component items and their totals.

Only regular participants in SPR have the opportunity to receive the full set of benefits.

Tasmanian males aged 25-34 are significantly under-represented as both participants and volunteers in SPR.

Sport and physical recreation in Tasmania

Participation rates

Our **key findings** in relation to SPR participation in 2009 Tasmania are:

Just over half the Tasmanian population aged 15 years and over are not sufficiently active in SPR to receive the full health benefits of participation.

At-risk populations whose participation in SPR falls significantly under regular participation benchmarks, include:

- males, especially the 25–34 age cohort — a population often assumed to be highly active
- people with children under 18 years of age, especially if the children are not living at home
- people who have not gone on to post-secondary education
- people who are in full-time employment.

Other findings in relation to participation in 2009 are:

Nearly half of all Tasmanians aged 15 years and over regularly participated in SPR three times a week or more (46.6 per cent which is slightly below the national average of 47.7 per cent).

Participation rates have increased since 2005.

- In 2005, the regular participation rate among males was 40.9 per cent; this increased to 42.6 per cent in 2009.
- In 2005, the regular participation rate among females was 44.6 per cent; this increased to 50.4 per cent in 2009.

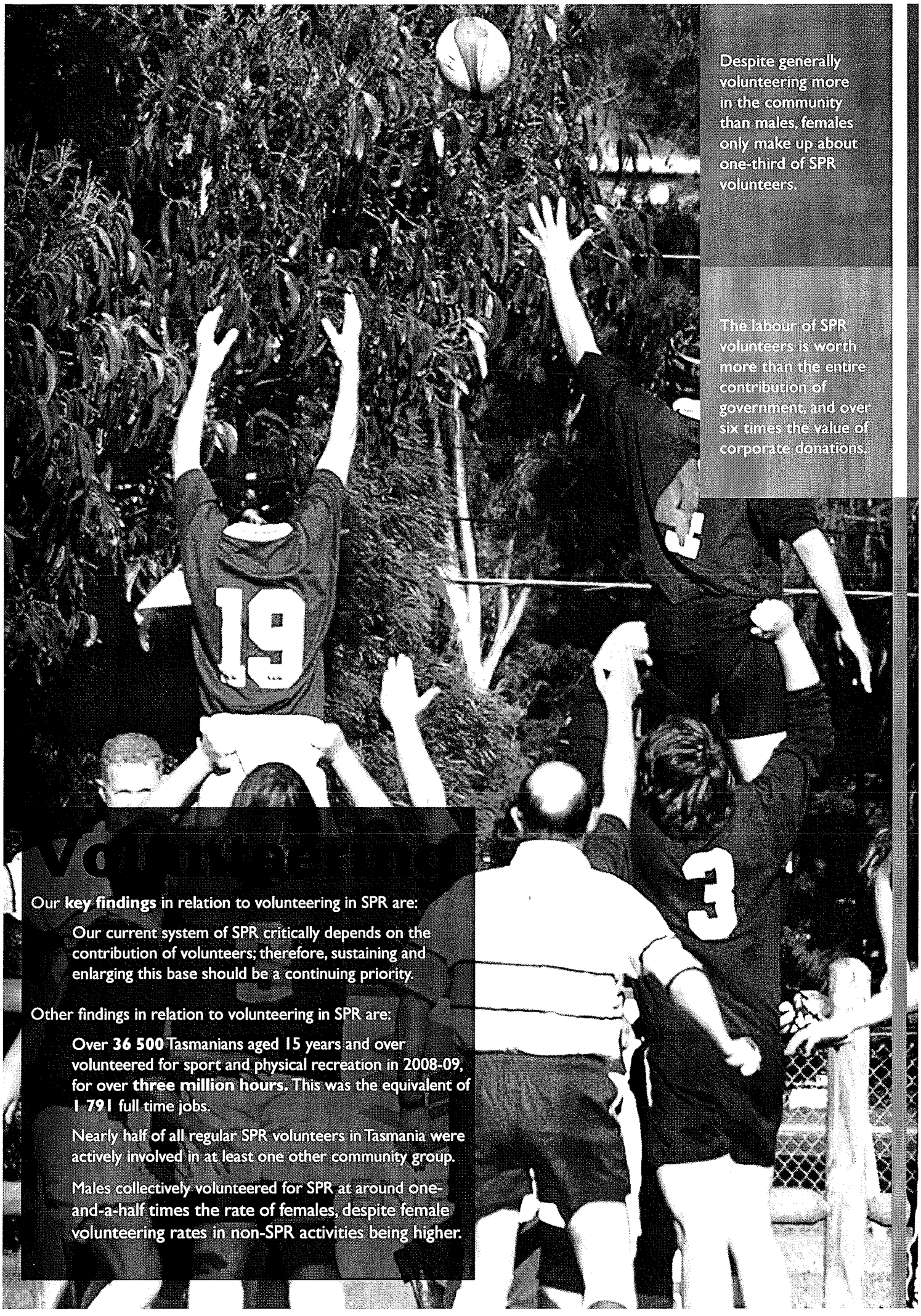
More females than males are regular SPR participants (50.4 per cent compared to 42.6 per cent).

The increase in regular participation over time is consistent with national trends, which are largely explained by an increase in participation in non-organised SPR.

- Regular participation in non-organised SPR has increased dramatically between 2001 (27.9 per cent) and 2009 (38.9 per cent).
- Regular participation in organised SPR has increased to a lesser extent between 2001 (9.3 per cent) and 2009 (12.4 per cent).

Just over 140 000 Tasmanians aged 15 years and over participated in SPR up to three times per week, an occasional participation rate of 34.9 per cent (the national average was 34.3 per cent).

An estimated 75 000 Tasmanians aged 15 years and over did not participate in any physical activity for exercise, recreation or sport in the 12 months prior to interview in 2009, a non-participation rate of 18.5 per cent (the national average was 18.0 per cent).



Despite generally volunteering more in the community than males, females only make up about one-third of SPR volunteers.

The labour of SPR volunteers is worth more than the entire contribution of government, and over six times the value of corporate donations.

Volunteers

Our **key findings** in relation to volunteering in SPR are:

Our current system of SPR critically depends on the contribution of volunteers; therefore, sustaining and enlarging this base should be a continuing priority.

Other findings in relation to volunteering in SPR are:

Over **36 500** Tasmanians aged 15 years and over volunteered for sport and physical recreation in 2008-09, for over **three million hours**. This was the equivalent of **1 791** full time jobs.

Nearly half of all regular SPR volunteers in Tasmania were actively involved in at least one other community group.

Males collectively volunteered for SPR at around one-and-a-half times the rate of females, despite female volunteering rates in non-SPR activities being higher.

The cost of sport and physical recreation

Our **key findings** in relation to the cost of SPR in Tasmania are:

The total cost of SPR to Tasmania in 2008-09 was **$1.3 billion.**

In using an Australian-first satellite account methodology, the post-tax expenditure of Tasmanian households on SPR was estimated to be **$491.9 million**, representing 5.2 per cent of all household spending.

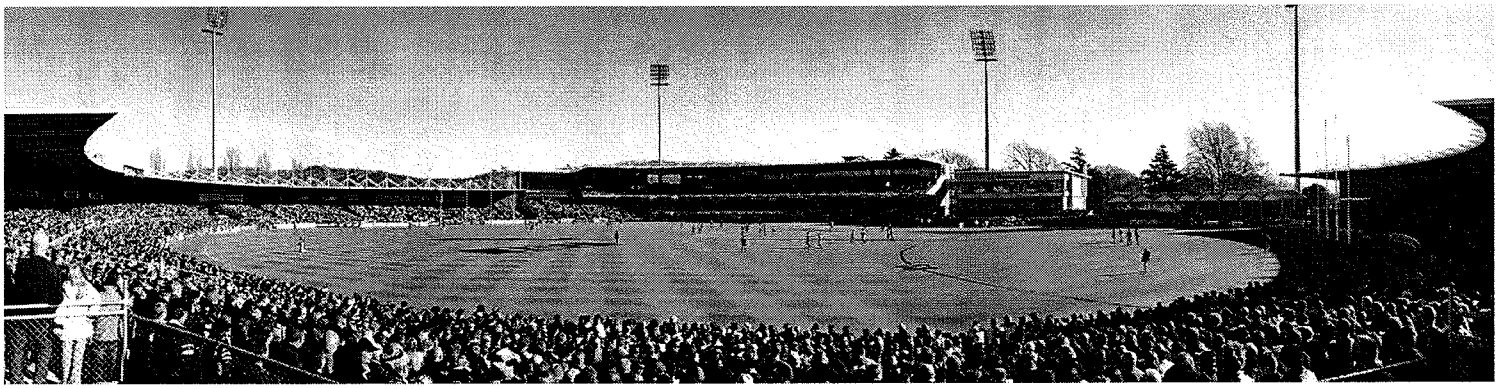
Tasmanian businesses were estimated to have spent **$17.6 million** on SPR above and beyond their operating expenses. This figure is likely to be an under-estimate as it does not consider SPR-related expenditure on employee wellbeing.

The three tiers of government contributed a further **$103.6 million.**

Local Government directly spent **$29.9 million** on SPR, and controlled $819.1 million of SPR assets.

The Tasmanian Government directly spent $8.0 million on its SPR agency, Sport and Recreation Tasmania (SRT); however, we were also able to identify $62.6 million of expenditure on SPR by other State Government bodies; including the Department of Education, the Tasmanian Parks and Wildlife Service, Tourism Tasmania, the Department of Health and Human Services and the Department of Justice. The combined total of **$70.7 million** represented less than 1.8 per cent of the state's total outgoings.

Although we could only locate **$3.0 million** of recurrent Federal Government expenditure on SPR in Tasmania, significant capital contributions to SPR in the period were noted and allowed for in the assessment of opportunity costs.



The current (or direct cost) of SPR was $613.3 million.

The opportunity cost of SPR is low for the very young or very old, but quite high for those in higher earning age groups.

This may be a psychological barrier to participation.

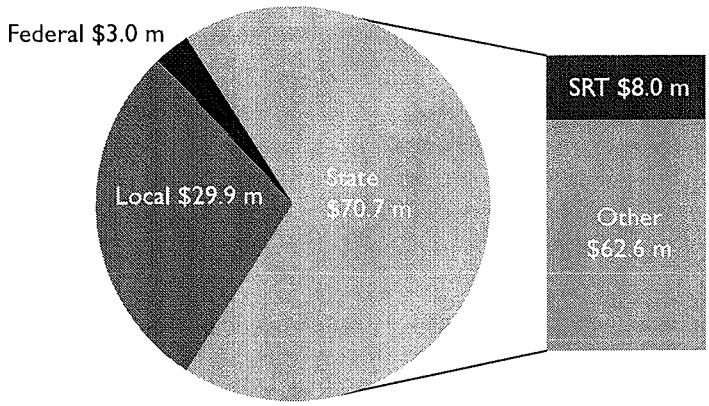
The opportunity cost of one hour of SPR participation or volunteering is identified by the income that could have been earned by working for that extra hour.

Using the average weekly earnings for part-time and full-time workers for each age group, less a 35 per cent marginal rate of tax, the effective labour cost of SPR in Tasmania was estimated to be **$646.6 million**. Of this, $609.9 million was attributable to participants, and $36.8 million was donated by volunteers.

Public ownership of SPR resources similarly prevents them being used for alternative endeavours. If a playing field associated with a school was sold because no value was placed on sporting activity by the community, then the value of land could be used to reduce gross government borrowing — our supposed next best alternative use.

The value of the opportunity lost through the public ownership of SPR assets was **$32.2 million**. In other words, if all of the state's publically owned SPR assets were sold and invested in the long-term money market, we might have expected a return in 2008-09 of $32.2 million.

Figure 2 – Government expenditure (current costs) on SPR in Tasmania (2008-09)



The agency assumed to have primacy over sport and recreation in the state, Sport and Recreation Tasmania (SRT), funds less than 10 per cent of whole-of-government SPR activity.

The contribution of Local Government, although split over 29 administrative bodies, is significant — especially as Local Government administers nearly $820 million-worth of dedicated SPR infrastructure. However, to conclude that Local Government is the biggest investor in the delivery of SPR is flawed given that substantial State Government expenditure is distributed across the individual budgets of multiple agencies.

This suggests a significant strategic challenge for public policy if SPR resources and knowledge are to be optimally distributed.

The opportunity cost of SPR was $678.8 million.

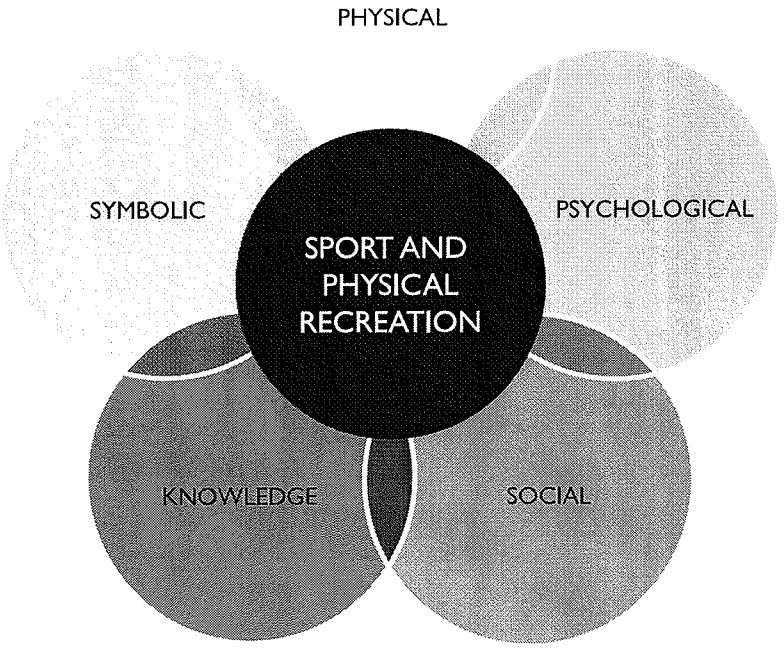
Sport and physical recreation capital

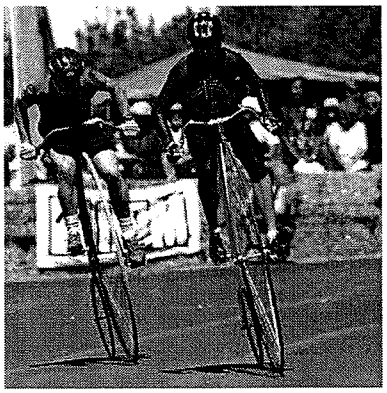
If economic capital is the sum of wealth created by an economy, natural capital is that found in an ecosystem, and intellectual capital is the wealth embedded in ideas; then, SPR capital would refer to any wealth or capacity that is attributable to sport and physical recreation.

In and of itself, however, capital is not productive. For SPR to realise the potential of the value that is stored within it, that capital must be employed. SPR capital is also a non-substitutable attribute that accrues discretely within individuals. It is only when citizens collectively express their SPR capital that its effect can be quantified and reconciled with costs to arrive at estimates of value. Importantly, that capital can be used positively (for example, to improve the health of a participant), or negatively (for example, to justify acts of vilification on the basis of SPR team membership).

SPR capital lies at the nexus between inputs (costs) and outputs. It is the store of potential that accrues in an individual as a result of their engagement with SPR. Economic expressions of SPR capital, or how that capital is employed, will be unique to each society, even though the potential — for good or bad — within SPR capital is theoretically uniform.

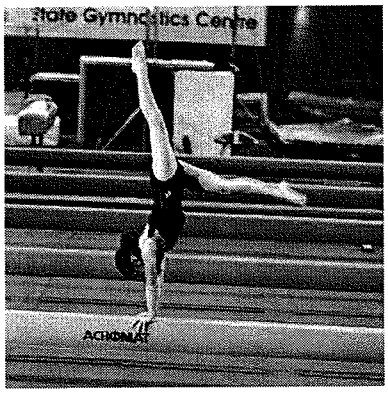
Figure 3 – Sport and physical recreation capital





Physical capital is the sum of the health, wellbeing, cognitive and other physical benefits (including, for example, stamina, dexterity and attractiveness) that result from participation in sport or physical recreation.

SPR has the potential to grow a person's physical capital, which can act in turn as a catalyst for more commercially and socially productive behaviour.



Psychological capital is a positive set of mental states (as opposed to dispositional traits) that can be influenced by a person's participation in SPR. It measures an individual's self-efficacy (or confidence), hope, optimism and resilience.

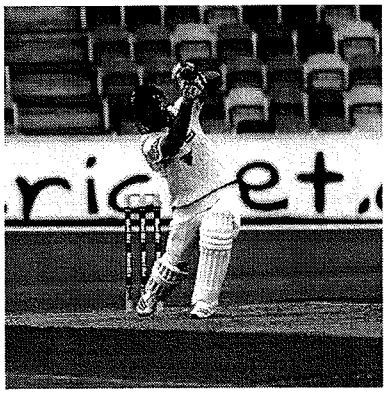
There are strong links between competitive sport and the nurture of psychological capital.

Social capital is 'the norms and social relations embedded in the social structures of societies that enable people to co-ordinate action to achieve desired goals'. In simple terms, it is a measure of a person's levels of trust, happiness, interpersonal networks and civic engagement.

Although there remains an inconsistent understanding of its economic value, social capital is conceptually embedded in the SPR literature.

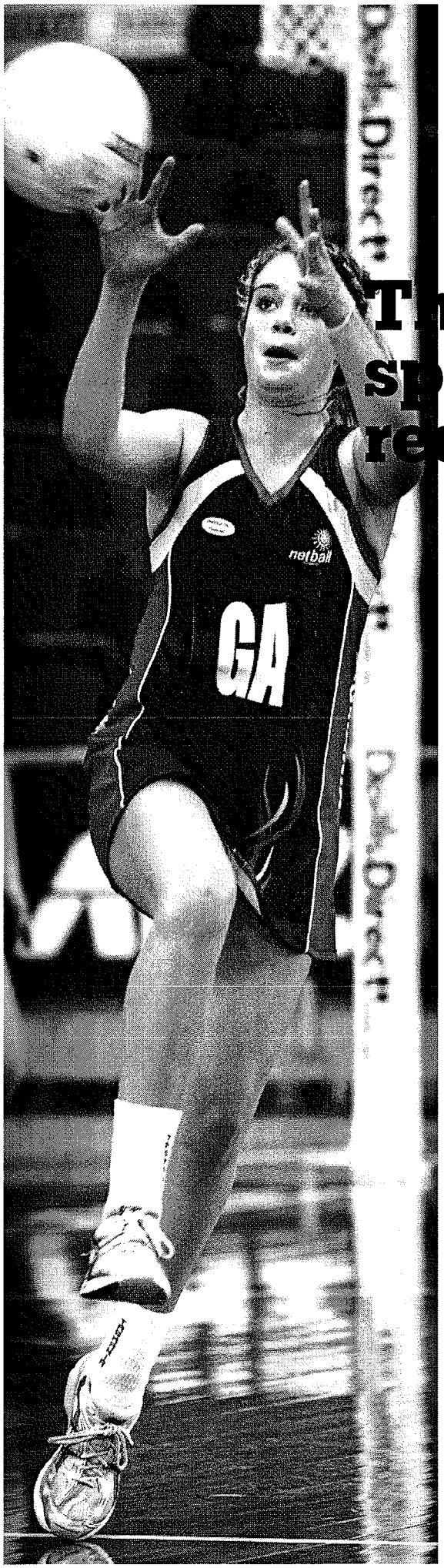
Knowledge capital. The skills training afforded by sport, especially for those in supporting roles, is a form of technical knowledge. SPR exposure to teamwork and leadership also enlarges an applicable body of experiential knowledge in an individual that can realise commercial gain. A person's knowledge of sporting news and trivia can similarly be used to improve their worth to others.

As ethics are a learned value, the ability of SPR to 'build character' is best understood as a knowledge potential.



Symbolic capital describes the value derived from being known and recognised, a concept synonymous with standing, good name, honour, fame, prestige and reputation. Symbolic capital need not necessarily be confined to the elite domain – there is a limited form of symbolic capital observable in all hierarchies.

The potential of SPR endowed symbolic capital is multiple; it can be accrued in individuals, products and even sports themselves for financial leverage (brand); or, it can be used as a motivation for productivity in those who are deficient (inspiration).



The benefits of sport and physical recreation

SPR creates physical, psychological, social, knowledge and symbolic capital. This is then converted into a set of economically valuable outputs that contribute to the welfare of society. The following outcomes were observed in Tasmania in 2008-09.

It should be noted that some of these benefits are significantly underestimated. For example, the replacement cost of volunteers (a civic benefit) assumes that SPR labour could be replaced at the full-time equivalent rate – this is known to be impractical given the infrequent and occasional scheduling of SPR events. Similarly, the economic benefit of SPR enabled innovation is neither estimated nor assumed in other values because of its intangible (yet observable) worth.

Health benefits

The economic impact of premature morbidity and mortality on Tasmania that can be attributed to physical inactivity is estimated to be $823.2 million. People who are sufficiently active as a result of their regular SPR participation therefore avoid an additional cost to society of **$718.4 million.**

This benefit accrues to individuals and is distinct from the savings made by our government and private systems of health care. It also only considers a limited range of disease states that are known to result from physical inactivity, and is likely to be a significant underestimate.

The SPR benefits that flow to individuals can be valued at $4.9 billion.

Government directly enjoys $396.1 million in benefits.

Business profitability is enlarged by $314.0 million as a result of SPR.

Civic benefits

The cost of replacing SPR volunteers in Tasmania is conservatively estimated to be $107.7 million. If government or other civic institutions did not meet this shortfall, the absence of voluntary labour would increase the cost of SPR participation to households by $9.97 per week, or 120 per cent.

Our health system additionally saved $60.2 million as a direct result of SPR-enabled physical activity. This was over 20 times the financial cost of SPR injury, which was $3.1 million.

Taken together with the costs avoided by our systems of social and criminal justice, as well as the value added to the Tasmanian 'brand', the sum of civic benefits enabled by SPR is estimated to be **$207.7 million**.

Civic benefits unquantified by this report include environmental and democratic (or governmental) outcomes.

Productivity benefits

Regular participation in SPR contributes to productivity by adding value to an employee's skills, and reducing the costs of absenteeism to their employer and industry.

In 2008-09, that benefit was worth at least **$311.6 million**.

Importantly, our method includes in this figure any losses to industry that may result from a regular SPR participant's injury or intention to otherwise avoid work. It does not, however, quantify the contribution that SPR innovation makes to the gross productivity of the community; nor does it calculate the cost to society of physically inactive persons' lower rate of workforce participation.

Commercial benefits

Expenditure by tourists to Tasmania who were motivated by SPR was **$451.6 million**.

Using the Tasmanian Regional Input Output Matrix (RIOM) model, we estimated that the impact of SPR expenditure was to increase output in the Tasmanian economy by **$1.84 billion**. The increase in wages, rents, profits and taxes associated with the increase in production is estimated to have increased Tasmania's gross state product by **$819.3 million** (compared to an alternative case in which those resources were idle due to a lack of demand).

The expenditure associated with SPR is also estimated to have generated in the order of **13 000 jobs**, both full-time and part-time. This represents approximately 5.2 per cent of the Tasmanian workforce, or one person in 20.

The taxes generated by SPR-related or motivated expenditure was **$188.4 million**. This estimate is higher than the identified expenditure by all levels of government on Tasmanian SPR of **$103.3 million.** Fiscally, therefore, the sector pays for itself and SPR-related public expenditure generates a positive return. It is nevertheless noted that the taxation revenue that accrues from SPR is unlikely to be distributed equitably to those tiers of government that invest in it.

In 2008-09 SPR delivered a total of **$184.4 million** in profit to Tasmanian businesses.

Leisure benefits

Consumer surplus is a financial measure of the satisfaction that people get from their purchases above and beyond the amount they paid for them. For example, a person may pay $750 for a gym membership, but be willing to pay up to $2 000 for the benefits they receive from their subscription. This difference of $1 250 is the consumer surplus - an important economic criterion for decision making, especially in public policy.

In the first study of its kind, we uniquely identify here a "leisure" benefit of **$4.0 billion**. This is the consumer surplus that Tasmanian's enjoy as a result of their SPR, less the equivalent health and productivity benefits already counted.

Cost benefit analysis

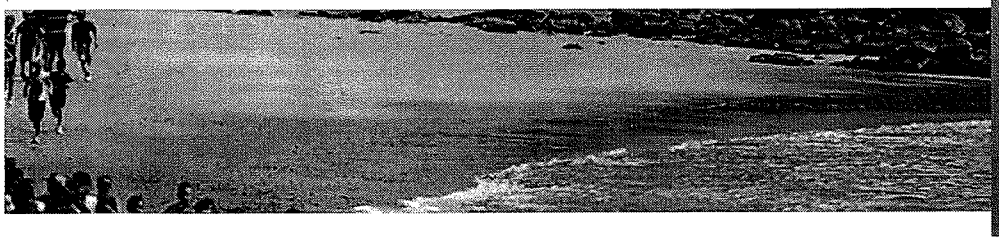
The sum of SPR-enabled benefits enjoyed by Tasmanians in 2008-09 was conservatively estimated to be $5.6 billion. This realised a **net benefit of $4.3 billion.**

It has already been established that the taxation revenue enjoyed by all levels of government more than off-sets the amount it actually spends on SPR. This analysis shows that their annual investment of around $100 million is repaid a staggering **50 times over** in returns to the community.

Furthermore, the opportunity cost of all the hours donated by individuals to SPR (including occasional participants and volunteers) is more than compensated for by the health contribution of regular participants.

Table 1 – The costs and benefits of SPR in Tasmania ($m) (2008-09)

Costs			
Current			
Households	$ 491.9		
Government	$ 103.6		
Businesses	$ 17.6	$ 613.1	
Opportunity			
Participation	$ 609.9		
Volunteering	$ 36.8		
Assets	$ 32.2	$ 678.8	$ 1,291.9
Benefits			
Individuals			
Health	$ 718.4		
Productivity	$ 182.0		
Leisure	$ 3,997.4	$ 4,897.8	
Government			
Civic	$ 207.7		
Commercial (taxes)	$ 188.4	$ 396.1	
Businesses			
Productivity	$ 129.6		
Commercial (profit)	$ 184.4	$ 314.0	$ 5,607.9
Net benefit			$ 4,316.0



For every $1 invested in SPR, Tasmanians enjoy well over $4 in benefits.

The welfare potential of SPR is yet to be optimally realised.

Ideally, all government policies would improve the welfare of society. A policy that made at least some people better-off, while making nobody worse-off, would unambiguously improve social welfare. In economic theory such a policy is termed Pareto efficient.

Having established that SPR delivers a net social benefit, the question that remains is whether or not Tasmanians are receiving the optimal (or most Pareto efficient) benefit from their SPR.

The rate of regular participation is the variable on which SPR most keenly depends. International studies suggest that it is reasonable to aspire to a 10 per cent increase in the rates of SPR participation and volunteering, at the rate of one per cent per year.

Because market forces have settled upon the reported rates of household and business expenditure in SPR, it is theorised that a 10 per cent change in regular participation can only be effected by stimulus from government.

Therefore the final question advanced by this report is: how much should the government be willing to spend to approach Pareto efficiency?

A 10 per cent increase in the rates of SPR participation and volunteering, at the rate of one per cent per year, would yield a net present surplus of $3.9 billion over 10 years.

In other words, $3.9 billion in welfare benefits would be enjoyed by the community above and beyond the annual benefit at the current participation rate.

This suggests that the three tiers of government could effectively invest an **additional $386.5 million per year** into Tasmanian SPR to achieve this target, without any loss to the benefits presently received.

Once the 10 per cent increase was achieved, an annual net welfare benefit of $5.2 billion would be realised. This is $905.3 million, or **121 per cent greater** than what is currently returned.

In other jurisdictions, successful interventions in policy have achieved significant increases in participation for no more than a fraction of their current SPR investment. Given the current all-of-government expenditure on SPR in Tasmania of $103.6 million, it is more likely than not that the three tiers could comfortably achieve the +10 per cent target for much less than $386.5 million per year. Obviously, the difference between this theoretical maximum and their actual spend would be returned to the community as a surplus welfare benefit.

Therefore, we conclusively state that despite the benefits currently delivered to Tasmanians, the full potential of sport and physical recreation is yet to be optimally realised.

Conclusion

The findings of this study largely speak for themselves. If you could absolutely guarantee a minimum annual return of over 400 per cent on every dollar invested commercially, then there would be a run on the banks tomorrow. Although this result may be cause for celebration amongst advocates for SPR, the full potential of the industry is yet to be realised.

It is beyond the brief of this project to make recommendations as to how government investment in sport and physical recreation can be made more efficient. That would require the application of our model to specific programs and policy contingencies. The results reported nevertheless reveal a number of conclusions that should be of particular interest to public policy.

On the participative side, just over half of the Tasmanian population aged 15 years and over are not sufficiently active in SPR to receive the full health benefits of participation. The gap between male and female rates of regular participation should also be of concern. Furthermore, our current system of SPR critically depends as much on the contribution of volunteers as it does on the largesse of government; therefore, sustaining and enlarging this base should be a continuing priority in the delivery of SPR services.

From the perspective of economic impact, we challenge the conventional wisdom in demonstrating that participative SPR is of far more significance to the welfare of the community than the discrete economic impacts of elite sport. The taxation revenue that governments earn from SPR is also greater than the money they spend on the same — even if these returns are disproportionally allocated. SPR is an industry that influences economic activity across almost the entire spectrum of government and commercial interests.

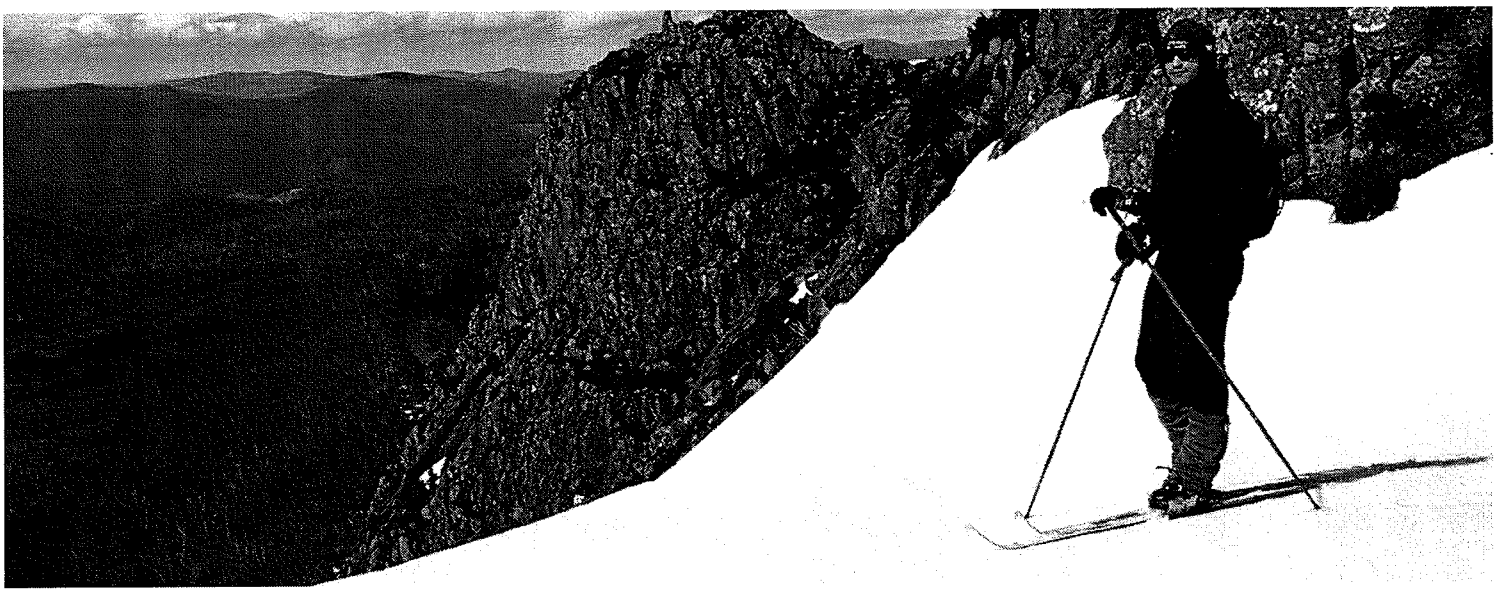
To that end, there should be a concerted effort to more efficiently share the resources and knowledge embedded in SPR throughout society.

Our cost benefit analysis has also shown that because the benefits of SPR exceed the social costs, the outcome is effective; however, it is not optimally efficient. The effect of volunteer and government subsidies is to reduce the cost to participants of engaging in sport and physical recreational activity. The reduction in price moves participation closer to the level that could be achieved where individuals are able to fully internalise the benefits of sport to health, life expectancy and social capital. Nevertheless, increasing government investment in SPR has the potential to yield an exponential return, thereby moving the SPR economy closer to an optimally efficient outcome.

This study has ultimately examined whether those who donate their time and money to SPR are supporting the common good. Our hope for this report is that it educates readers to the economically real and significant value of sport and physical recreation.

All too often, advocates of SPR are accused of being evangelists, appealing to the intuition of their audience in the absence of economic reason. Even if some of the findings herein are to be contested, we would argue that this report is a major step towards filling a gap in the debate for (or against) sport and physical recreation.

Although there are a number of limitations to our findings that would benefit from future research, the potential now exists for decision makers in both industry and government to leverage this framework for continual improvement in the marketing and delivery of their services.

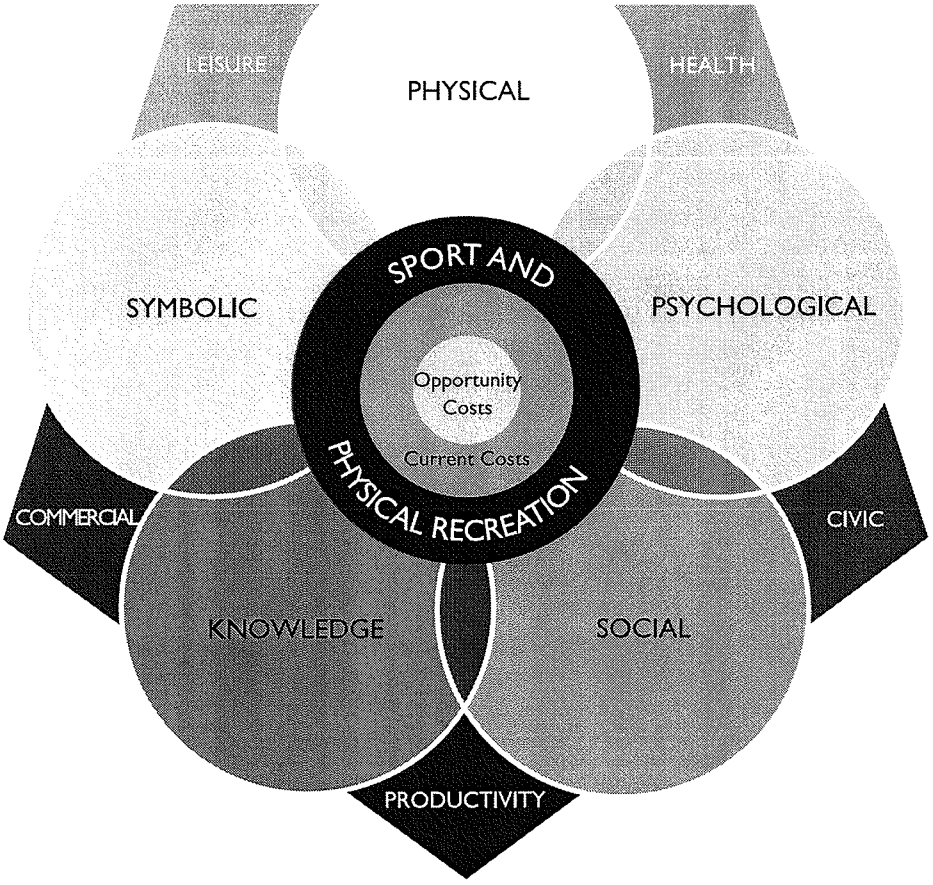


Opportunities for future research

This study has identified a number of gaps in our understanding of the empirical impacts of SPR in both Tasmania and around the world. Future research is therefore encouraged in the following areas:

- Tasmanian participation and volunteering in SPR including:
    - sub-regional and other demographic drivers
    - motivations for and constraints to participation.
- 'Sufficient' participation in SPR (and its relationship to regular participation).
- Participation in SPR by minors, and the antecedent costs and benefits.
- The role of professional sports in motivating engagement with SPR.
- Household expenditure on SPR (particularly in indirect categories).
- Business expenditure on employee welfare through SPR.
- The surpluses enjoyed by businesses who invest in employee SPR.
- Population attributable rates of inactivity for other disease states where there is a strong causal link between them and SPR participation (for example sexually transmitted disease, drug and alcohol addiction).
- SPR-related export activity.
- Regional brand value leveraged by SPR including:
    - replacement cost of media content
    - impacts on consumer behaviour.
- The environmental costs and benefits of SPR.
- Quantitative research into the workplace productivity benefits enabled by SPR.
- The contribution of SPR innovation to society.
- The impact of SPR identification on community wellbeing.
- The consumer surplus (or value in leisure) of SPR volunteering and spectating.

The value of sport and physical recreation



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